

Garage Doors and Openers

Garage doors are typically among the heaviest moving objects in the home and are held under high tension. Injuries caused by garage doors account for approximately 20,000 emergency room visits annually, according to the U.S. Consumer Product Safety Commission. The majority of the injuries caused by garage doors are the result of pinched fingers, although severe injuries and deaths due to entrapment occur as well.

The following components should be present on a modern garage door:

Manual (emergency) release handle.

- Both sides of the door panels should be examined for the following; fatigue, cracking and dents, separation of materials.
- Warning labels; a spring warning label, a general warning label, attached to the back of the door panel & a warning label attached to the wall and a tension warning label, attached to garage door's bottom bracket.
- Brackets and roller shafts.
 1. Brackets. The garage door opener is connected to the garage door by a bracket that is essential to the function of the door opener system. Placement of the bracket where it attaches to the door is crucial to the operation of its safety features. It should attach 3 to 6 inches from the top of the door. This bracket, as well as all other brackets, should be securely attached to their surfaces.
 2. Roller shafts. Roller shafts should be longer on the top and bottom rollers. The top rollers are the most important. Without longer shafts, if one side of the door hangs up, the door may fall out of the opening.
- Door operation. The door's operation can be tested by raising the door manually, grasping the door's handles if it has them, make sure that the door:
 1. moves freely;
 2. does not open or close too quickly; and
 3. Opens and closes without difficulty.
- Extension spring containment cables. Older garage doors may use extension springs to counter-balance the weight of the door. These require a containment cable inside the spring to prevent broken parts from being propelled around the garage if the spring snaps. Most new garages use shaft-mounted torsion springs that do not require containment cables.
- Wall-mounted switch. This device must be present and positioned as high as is practical above the standing surface so that children do not gain access. In addition, the button must be mounted in clear view of the garage door.

- automatic reverse system. As of 1991, garage doors are required to be equipped with a mechanism that automatically reverses the door if it comes in contact with an object. It is important that the door reverses direction and opens completely, rather than merely halting. Methods for testing the automatic reverse system:
 1. This safety feature can be tested by grasping the base of the garage door as it closes and applying upward resistance. Use caution while performing this test because you may accidentally damage the components if the door does not reverse course.
- supplemental automatic reverse system. Garage doors manufactured in the U.S. after 1992 must be equipped with photoelectric sensors or a door edge sensor.
 1. Photoelectric eyes. These eyes (also known as photoelectric sensors) are located at the base of each side of the garage door and emit and detect beams of light. If this beam is broken, it will cause the door to immediately reverse direction and open. For safety reasons, photo sensors must be installed a maximum of 6 inches above the standing surface.
 2. Door edge sensors. This device is a pressure-sensitive strip installed at the base of the garage door. If it senses pressure from an object while the door is closing, it will cause the door to reverse. Door edge sensors are not as common in garage door systems as photoelectric eyes.

Safety Advice :

- Homeowners should not attempt to adjust or repair springs themselves. The springs are held under extremely high tension and can snap suddenly and forcefully, causing serious or fatal injury.
- No one should stand or walk beneath a garage door while it is in motion. Adults should set an example for children and teach them about garage door safety. Children should not be permitted to operate the garage door opener push button and should be warned against touching any of the door's moving parts.
- Fingers and hands should be kept away from pulleys, hinges, springs, and the intersection points between door panels. Closing doors can very easily crush body parts that get between them.

In summary, garage doors and their openers can be hazardous if certain components are missing or defective.